

## REMARKS

By this paper, the Applicant has amended Claims 25, 27-29 and 30-38, and added new Claims 40-42. Upon entry of the amendments, Claims 1-42 are now pending and are presented for further examination.

### Discussion of Claim Amendments

The amendments to Claim 30 are supported, for example, by paragraph [0026] of the present specification. The amendments to Claim 31 are supported, for example, by paragraphs [0028] and [0029] of the specification. The amendments to Claims 32-33 are supported, for example, by paragraph [0027] of the specification. New Claims 40-42 are supported, for example, by paragraphs [0026] and [0027] of the present specification. All of the other claim amendments are supported by the language of the instant claims before the amendments. As such, Applicant respectfully submits that the amendments are fully supported by the application as originally filed and do not constitute the addition of new matter. Applicant respectfully requests the entry of the amendments.

### Discussion of Claim Rejections Under 35 U.S.C. § 102(e)

In paragraph 2 of the Office action, the Examiner rejected Claims 1-39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,151,103 to Shu, et al., hereinafter "Shu." In rejection the claims, the Examiner asserted that Shu discloses all the structures set forth in Claims 1-15. The Examiner asserted that Shu discloses the structure set forth in Claims 16-24 and 34-39. Further, the Examiner asserted that the method steps of Claims 25-33 are met by the operation of Shu as applied to Claims 1-24 and 34-39. Applicant respectfully disagrees and submits that the claims are not anticipated by Shu as discussed below. Applicant submits that the claims are patentable over Shu with or without the amendments to the claims as discussed below.

#### A. The Law of Anticipation

Anticipation under Section 102 can be found only if a reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775 (Fed. Cir. 1985). More particularly, a finding of anticipation requires the disclosure in a single piece of prior art of each and every

limitation of a claimed invention. *Electro Med. Sys. S.A. v. Cooper Life Sciences*, 34 F.3d 1048, 1052 (Fed. Cir. 1994). “To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim.” *Brown v. 3M*, 265 F.3d 1349 (Fed. Cir. 2001). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

B. Brief Description of U.S. Patent No. 6,151,103 to Shu

Shu discloses a method and system for optical imaging in microlithography. Shu’s method and system uses a reticle (160) having a pattern for projecting an image therethrough and a filter (183) for use in improving the imaging or in correcting flaws in the reticle. *See Abstract* and Figure 2 of Shu. A series of lens (182) are located between the reticle (160) and the filter (183). *See Shu at Figure 2*. The distance from reticle (160) to the lens (182) is one focal length, as is the distance from the lens (182) to filter (183). *See Shu at column 4, lines 27-29*. This geographical relationship provides that the image of reticle (160) at the filter (183) is a Fourier transform of the reticle pattern, which has a central region (185) corresponding to the zeroth order of the transform and other regions (186) corresponding to the higher orders of the transform. *See Shu at column 4, lines 35-43*. The light is the most intense at the central region (185). *Id.* The filter (183) is produced as it bears the Fourier transform of the reticle pattern. *See Shu from column 4, line 52 through column 5, lines 56*, particularly column 5, lines 55-56.

Shu teaches various uses of the filter (183). If the filter (183) is flawless, it can be used to correct image distortions generated by a flawed reticle for the same pattern by filtering with the filter (183) the image projected by the flawed reticle (160). *See Shu at column 5, lines 57- 65*. Filters (183) made from multiple identical patterns can be used to detect flaws in the patterns by superimposing the filters and identifying discrepancies between them. *See Shu from column 5, line 66 to column 6, line 11*. Alternatively, the filter (183) can be used to reduce the light intensity of by the zeroth order of the Fourier transform of the reticle pattern by darkening the central region (185). *See Shu at column 6, lines 24-26*.

C. Discussion of Distinctions of Independent Claim 1

Independent Claim 1 is directed to a photolithography system comprising a first plate and a second plate. The first plate has a pattern and is configured to receive light from a light source and to project an image through the pattern. The pattern of the first plate includes a defect causing distortion of the light. The second plate is located in a path of the projected image and comprises one or more portions configured to diverge or converge at least a portion of the light distorted by the defect.

Applicant respectfully submits that Shu does not teach or disclose the claimed feature that the second plate comprises one or more portions configured to diverge or converge at least a portion of the light distorted by the defect. In support of his rejection of Claim 1, the Examiner asserted that “the [filter (183) comprises] one or more portions configured to diverge or converge at least a portion of the light distorted by the defect.” However, the Examiner failed to cite to anywhere in Shu to support his assertion. As noted above in the description of Shu, the filter (183) has a pattern representing the Fourier transform of the pattern in the reticle (160). The filter (183) does not have any portions to diverge or converge light distorted by a defect of a pattern in another plate. Shu does not teach or suggest a second plate configured to diverge or converge of light distorted by a defect in another pattern. As such, Shu does not disclose or teach all of the limitations of Claim 1. Applicant respectfully submits that Claim 1 is not anticipated by Shu.

D. Discussion of Distinctions of Independent Claim 25

As noted above, in rejecting Claim 25, the Examiner asserted that the method steps of these claims are met by the operation of Shu as applied to Claims 1-24 and 34-39. Applicant respectfully disagrees and submits that the limitations of Claim 25 are not met by the operation of Shu’s system as applied to the other claims as discussed below.

Independent Claim 25 is directed to a method of correcting a defect in a pattern of a photolithography system. The claimed method comprises, among other features, diverging or converging, by one or more portions of a second plate, at least part of the light rays distorted by a defect in a first plate. As discussed above in conjunction with Independent Claim 1, Shu does not teach or disclose a method comprising diverging or converging light rays that are distorted by

a defect in another plate. As such, Shu does not disclose all of the limitations of Claim 25 and therefore does not anticipate Claim 25.

**E. Discussion of Distinctions of Independent Claim 28**

In rejecting Claim 28 the Examiner asserted that the method steps of these claims are met by the operation of Shu as applied to Claims 1-24 and 34-39. Applicant respectfully disagrees and submits that the limitations of Claim 28 are not met by the operation of Shu's system as applied to the other claims as discussed below.

Independent Claim 28 is directed to a method of making a plate. The claimed method comprises, among other features, placing a second plate, which comprises one or more portions configured to diverge or converge at least part of the light distorted by a defect in a first plate. As discussed above in conjunction with Independent Claim 1, Shu does not teach or disclose a method comprising placing a plate, which comprises one or more portions configured to converge or diverge light rays distorted by a defected in another plate.

Independent Claim 28 further recites the features of obtaining at least one measurement of a feature of an image projected through a pattern and analyzing the at least one measurement of the feature with reference to a desired feature so as to define a defect in the pattern. Shu fails to teach any of these additional claimed features. In fact, Shu is not concerned about defining a defect in a pattern of the reticle (160) nor forming a filter with portions to correct the particular defect. Rather, Shu's correction of an image distorted by a flawed reticle is carried out merely by filtering the distorted image again with an unflawed filter (183). Thus, Shu has no need for measuring and analyzing features of an image. Consistently, Shu does not provide any teachings of measuring features of an image or analyzing the measured features. In light of the foregoing, Shu does not disclose all of the limitations of Claim 28 and therefore does not anticipate Claim 28.

**F. Discussion of Distinctions of Independent Claim 34**

Independent Claim 34 is directed to a photolithography system. The claimed system comprises, among other features, means for obtaining at least one measurement of a feature of an image projected through a pattern and means for analyzing the at least one measurement of the

feature with reference to a desired feature so as to define a defect in the pattern. The system also comprises means for determining optical characteristics of a second plate for substantially compensating for the defect. As discussed above in conjunction with Claim 28, Shu fails to teach a photolithography system comprising any of these claimed features. As such Shu does not anticipate Claim 34.

G. Discussion of Distinctions of Independent Claim 35

Independent Claim 35 is directed to a photolithography system, which comprises means for filtering light and means for converging or diverging light. Claim 35 recites, among other features, that converging or diverging means is to converge or diverge at least part of light distorted by a defect in the filtering means. As discussed above in conjunction with Independent Claim 1, Shu does not disclose or teach a photolithography system comprising means for converging or diverging at least part of the light distorted by a defect in a filtering means. As such, Shu does not disclose all of the limitations of Claim 35 and therefore does not anticipate Claim 35.

Since independent Claims 1, 25, 28, 34 and 35 includes one or more patentable distinctions, Applicant respectfully submit that each of these independent claims is patentable.

Claims 2-24, 26, 27, 29-33 and 36-42 depend either directly or indirectly from one of independent Claims 1, 25, 28 and 35, and further define additional patentable features. In view of patentability of the independent claims, and in further view of the additional technical features, Applicant respectfully submit that Claims 2-24, 26, 27, 29-33 and 36-42 are also patentable.

## CONCLUSION

Applicant has endeavored to address all of the Examiner's concerns as expressed in the Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of patentability of the pending claim set are presented above. Any claim amendments which are not specifically discussed in the above remarks are made in order to improve the clarity of claim language, to correct grammatical mistakes or ambiguities, and to otherwise improve the clarity of the claims to particularly and distinctly point out the invention to those of

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skill in the art. Finally, Applicant submits that the claim limitations above represent only illustrative distinctions. Hence, there may be other patentable features that distinguish the claimed invention from the prior art.

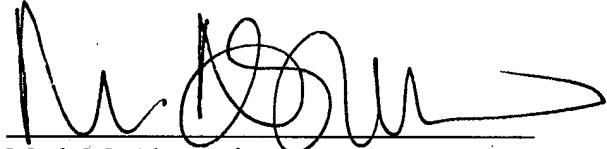
In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and, particularly, that all claims be allowed. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully invited to call the undersigned.

Respectfully submitted,

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